

**Amendments to the Claims:**

This listing of claims will replace all prior versions and listings of claims in the application:

**Listing of Claims:**

Claim 1 (previously presented): A method for characterizing a quality of a network path, including a first segment and a second segment, the method comprising:

modeling negative linear exponential equations for deriving first and second metrics, wherein the first and second metrics are at least in part quality characterizations of a same plurality of one or more network applications;

accessing the first metric and the second metric,

the quality characterization characterizes a quality of the same plurality of one or more network applications running at one or more segment end-points,

the first metric and the second metric are at least partly a function of a same plurality of one or more elementary network parameters,

the plurality of one or more network parameters include one or more of delay, jitter, loss, currently available bandwidth, and intrinsic bandwidth,

the first metric is at least partly the function of the same plurality of network parameters of the first segment,

the one or more segment end points include one or more endpoints of the first segment,

the second metric is at least partly the function of the same plurality of network parameters of the second segment, and

the one or more segment end points include one or more endpoints of the second segment; and

adding the first metric and the second metric to generate a third metric,

wherein the third metric is at least partly the function of the same plurality of one or more network parameters of the network path,

the one or more segment end points include one or more endpoints of the network path, and

the third metric is a quality characterization of the same plurality of one or more applications.

Claim 2 (previously presented): The method of claim 1, further comprising:  
prior to accessing the first or the second metric, generating at least one of the first metric  
and the second metric.

Claim 3 (previously presented): The method of claim 1, further comprising:  
prior to accessing the first or the second metric, receiving at least one of the first metric  
and the second metric.

Claim 4 (original): The method of claim 1, wherein at least one of the plurality of one or more  
network parameters is dynamic.

Claim 5 (original): The method of claim 1, wherein at least one of the plurality of one or more  
network parameters is static.

Claim 6 (original): The method of claim 1, wherein the plurality of one or more network  
applications include at least one of UDP and TCP applications.

Claim 7 (original): The method of claim 6, wherein the plurality of one or more network  
applications include UDP applications.

Claim 8 (original): The method of claim 7, wherein the plurality of one or more network  
applications include voice.

Claim 9 (original): The method of claim 7, wherein the plurality of one or more network  
applications include video.

Claim 10 (original): The method of claim 9, wherein the plurality of one or more network  
applications include video conferencing.

Claim 11 (original): The method of claim 6, wherein the plurality of one or more network  
applications include TCP applications.

Claim 12 (original): The method of claim 11, wherein the plurality of one or more network applications include HTTP.

Claim 13 (previously presented): The method of claim 12, wherein the plurality of one or more network applications include one of HTTP/1.0 and HTTP/1.1.

Claim 14 (canceled)

Claim 15 (original): The method of claim 11, wherein the plurality of one or more network applications include ftp.

Claim 16 (original): The method of claim 11, wherein the plurality of one or more network applications include telnet.

Claim 17 (original): The method of claim 1, wherein the plurality of one or more network parameters include delay.

Claim 18 (original): The method of claim 1, wherein the plurality of one or more network parameters include jitter.

Claim 19 (original): The method of claim 1, wherein the plurality of one or more network parameters include loss.

Claim 20 (original): The method of claim 1, wherein the plurality of one or more network parameters include currently available bandwidth.

Claim 21 (original): The method of claim 1, wherein the plurality of one or more network parameters include intrinsic bandwidth.

Claim 22 (previously presented): The method of claim 1, wherein the first, second, and third metrics include non-performance related characteristics.

Claim 23 (previously presented): The method of claim 22 , wherein the non-performance related characteristics includes pre-specified route preferences.

Claim 24 (previously presented): A network system, comprising:

- a plurality of one or more network devices configured, such that if the network device is coupled to at least a network path including a first segment and a second segment, the plurality of one or more network devices performing:

- modeling negative linear exponential equations for deriving first and second metrics, wherein the first and second metrics are at least in part quality characterizations of a same plurality of one or more network applications;

- accessing the first metric and the second metric,

- the quality characterization characterizes a quality of the same plurality of one or more network applications running at one or more segment end-points,

- the first metric and the second metric are at least partly a function of a same plurality of one or more elementary network parameters,

- the plurality of one or more network parameters include one or more of delay, jitter, loss, currently available bandwidth, and intrinsic bandwidth,

- the first metric is at least partly the function of the same plurality of network parameters of the first segment,

- the one or more segment end points include one or more endpoints of the first segment,

- the second metric is at least partly the function of the same plurality of network parameters of the second segment, and

- the one or more segment end points include one or more endpoints of the second segment; and

- adding the first metric and the second metric to generate a third metric,

- wherein the third metric is at least partly the function of the same plurality of one or more elementary network parameters of the network path,

- the one or more segment end points include one or more endpoints of the network path, and

- the third metric is a quality characterization of the same plurality of one or more applications.

Claim 25 (previously presented): The network system of claim 24, wherein the network device further performs:

prior to accessing the first or the second metric, generating at least one of the first metric and the second metric.

Claim 26 (previously presented): The network system of claim 24, wherein the network device further performs:

prior to accessing the first or the second metric, receiving at least one of the first metric and the second metric.

Claim 27 (previously presented): The network system of claim 24, wherein at least one of the plurality of one or more network parameters is dynamic.

Claim 28 (previously presented): The network system of claim 24, wherein at least one of the plurality of one or more network parameters is static.

Claim 29 (previously presented): The network system of claim 24, wherein the plurality of one or more network applications include at least one of UDP and TCP applications.

Claim 30 (previously presented): The network system of claim 29, wherein the plurality of one or more network applications include UDP applications.

Claim 31 (previously presented): The network system of claim 30, wherein the plurality of one or more network applications include voice.

Claim 32 (previously presented): The network system of claim 30, wherein the plurality of one or more network applications include video.

Claim 33 (previously presented): The network system of claim 32, wherein the plurality of one or more network applications include video conferencing.

Claim 34 (previously presented): The network system of claim 29, wherein the plurality of one or more network applications include TCP applications.

Claim 35 (previously presented): The network system of claim 34, wherein the plurality of one or more network applications include HTTP.

Claim 36 (previously presented): The network system of claim 35, wherein the plurality of one or more network applications include one of HTTP/1.0 and HTTP/1.1.

Claim 37 (canceled)

Claim 38 (previously presented): The network system of claim 34, wherein the plurality of one or more network applications include ftp.

Claim 39 (previously presented): The network system of claim 34, wherein the plurality of one or more network applications include telnet.

Claim 40 (previously presented): The network system of claim 24, wherein the plurality of one or more network parameters include delay.

Claim 41 (previously presented): The network system of claim 24, wherein the plurality of one or more network parameters include jitter.

Claim 42 (previously presented): The network system of claim 24, wherein the plurality of one or more network parameters include loss.

Claim 43 (previously presented): The network system of claim 24, wherein the plurality of one or more network parameters include currently available bandwidth.

Claim 44 (previously presented): The network system of claim 24, wherein the plurality of one or more network parameters include intrinsic bandwidth.

Claim 45 (previously presented): The network system of claim 24, wherein the first, second, and third metrics include non-performance related characteristics.

Claim 46 (original): The network system of claim 45, wherein the non-performance related characteristics includes pre-specified route preferences.

Claim 47 (previously presented): The network system of claim 24, further comprising:  
a plurality of one or more inputs adapted to be coupled to the network path; and  
a plurality of one or more outputs coupled to the plurality of one or more inputs,  
wherein responsive to a plurality of one or more packets arriving to the network device  
through the plurality of one or more inputs, the network device selects at least one output  
from the plurality of one or more outputs, and  
the at least one output is determined at least partly using at least one of the first metric,  
second metric, and third metric.

Claim 48 (previously presented): The method of claim 1, wherein the function of the same  
plurality of one or more network parameters is a combination of multiple component functions,  
wherein each of the multiple component functions is tailored to measure a performance  
characteristic of a corresponding one of the one or more network parameters.

Claim 49 (previously presented): The method of claim 1, wherein the first metric and the second  
metric are both derived from mean opinion scores.

Claim 50 (previously presented): The method of claim 1, wherein modeling negative linear  
exponential equations comprises fitting curves corresponding to the quality characterizations.

Claim 51 (canceled)

Claim 52 (previously presented): The method of claim 1, wherein modeling one of the negative  
linear exponential equations comprises determining a first parameter of the negative exponential  
equation corresponding to underestimating a quality characterization, determining a second  
parameter of the negative exponential equation corresponding to overestimating the  
corresponding quality characterization, and determining a third parameter from an average of the  
first and second parameters.

Claim 53 (previously presented): The method of claim 1, wherein a single negative linear exponential equation models both voice and TCP traffic, and further wherein a parameter of the single negative linear exponential equation is derived from first and second parameters of negative linear exponential equations corresponding to voice and TCP traffic, respectively.

Claim 54 (new): A method of characterizing a quality of a network path, including a first segment and a second segment, the method comprising:

- using products of negative exponential functions for deriving first and second metrics, wherein the first and second metrics are at least in part quality characterizations of a same plurality of one or more network applications;

- accessing the first metric and the second metric,

- the quality characterization characterizes a quality of the same plurality of one or more network applications running at one or more segment end-points,

- the first metric and the second metric are at least partly a function of a same plurality of one or more elementary network parameters whose individual performance is modeled using a negative exponential function,

- the plurality of one or more network parameters include one or more of delay, jitter, loss, currently available bandwidth, and intrinsic bandwidth,

- the first metric is at least partly the function of the same plurality of network parameters of the first segment,

- the one or more segment end points include one or more endpoints of the first segment,

- the second metric is at least partly the function of the same plurality of network parameters of the second segment, and

- the one or more segment end points include one or more endpoints of the second segment; and

- adding the first metric and the second metric to generate a third metric,

- wherein the third metric is at least partly the function of the same plurality of one or more network parameters of the network path,

- the one or more segment end points include one or more endpoints of the network path, and

- the third metric is a quality characterization of the same plurality of one or more applications.